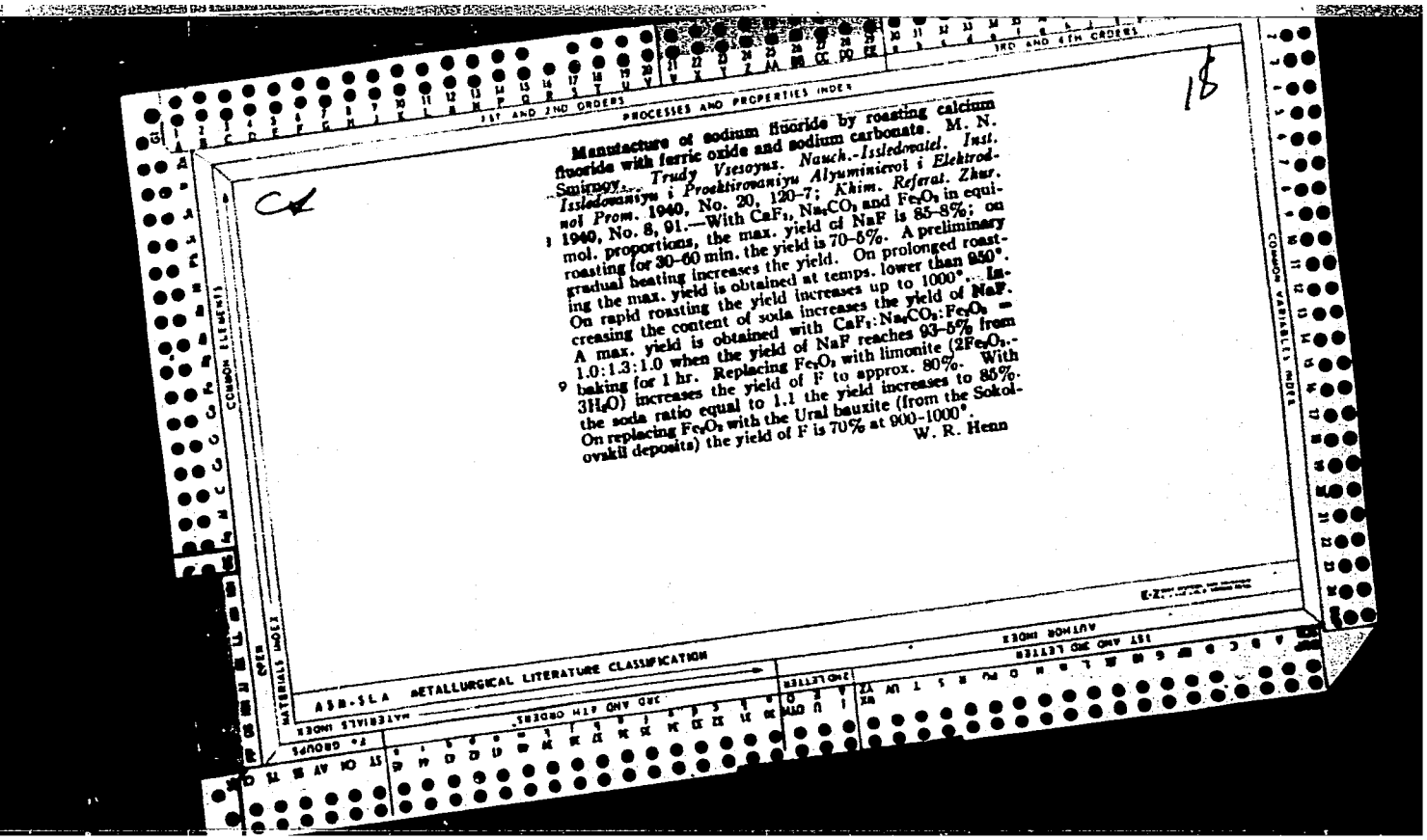


PROCESSES AND PROPERTIES INDEX

1ST AND 2ND ORDERS

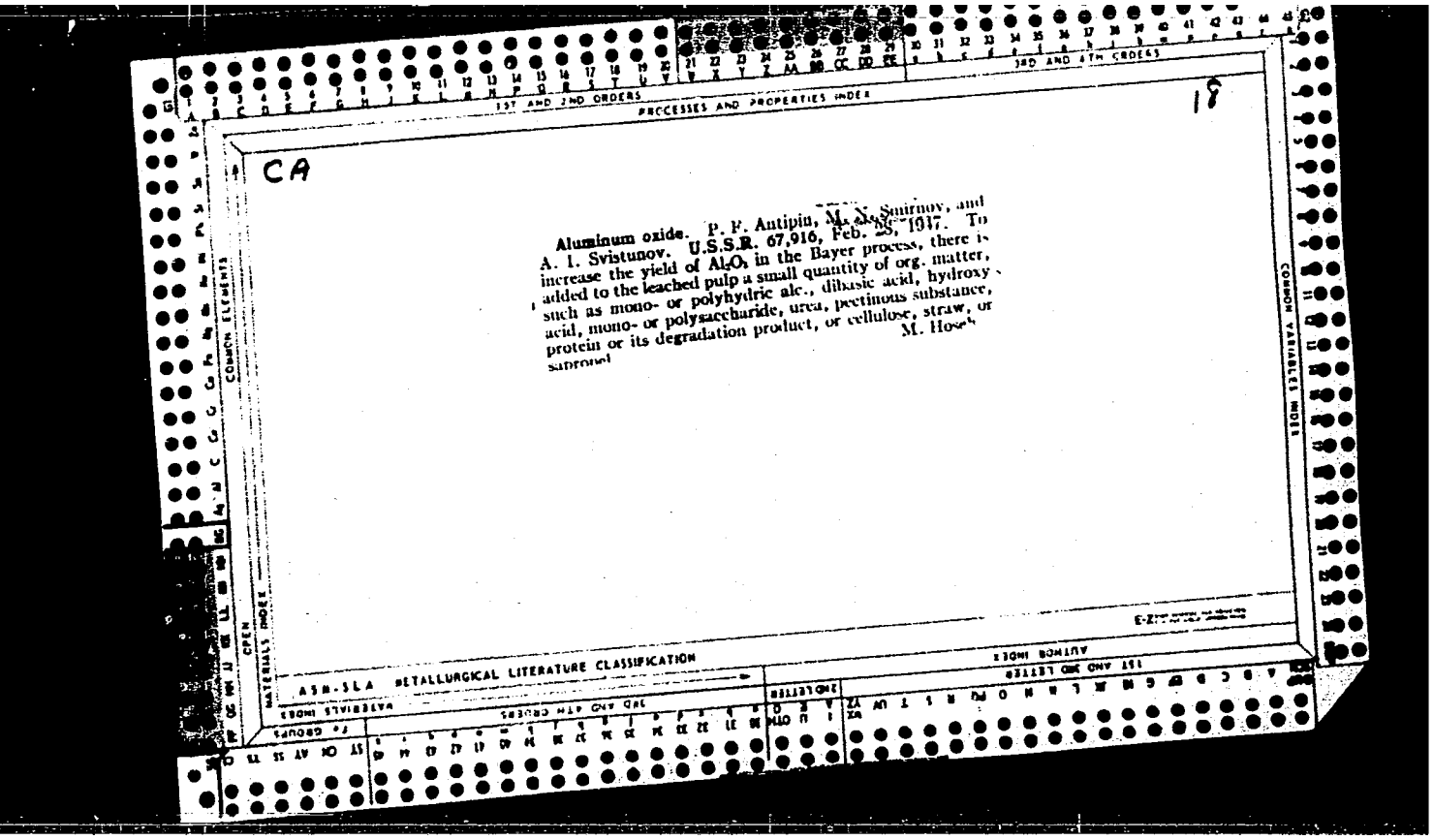
3RD AND 4TH ORDERS

18

Manufacture of sodium fluoride by roasting calcium fluoride with ferric oxide and sodium carbonate. M. N. Smirnov. *Trudy Vsesoyus. Nauch.-Issledovatel. Inst. Issledovaniyu i Proektirovaniyu Alyuminievoi i Elektrodnoi Prom.* 1940, No. 20, 120–7; *Khim. Referat. Zhur.* 1940, No. 8, 91.—With CaF_2, Na_2CO_3 and Fe_2O_3 in equimol. proportions, the max. yield of NaF is 85–8%; on roasting for 30–60 min. the yield is 70–5%. A preliminary gradual heating increases the yield. On prolonged roasting the max. yield is obtained at temps. lower than 950°. On rapid roasting the yield increases up to 1000°. Increasing the content of soda increases the yield of NaF. A max. yield is obtained with CaF_2:Na_2CO_3:Fe_2O_3 = 1.0:1.3:1.0 when the yield of NaF reaches 93–5% from baking for 1 hr. Replacing Fe_2O_3 with limonite ($2Fe_2O_3 \cdot 3H_2O$) increases the yield of F to approx. 80%. With the soda ratio equal to 1.1 the yield increases to 85%. On replacing Fe_2O_3 with the Ural bauxite (from the Sokolovskii deposits) the yield of F is 70% at 900–1000°.

W. R. Henn

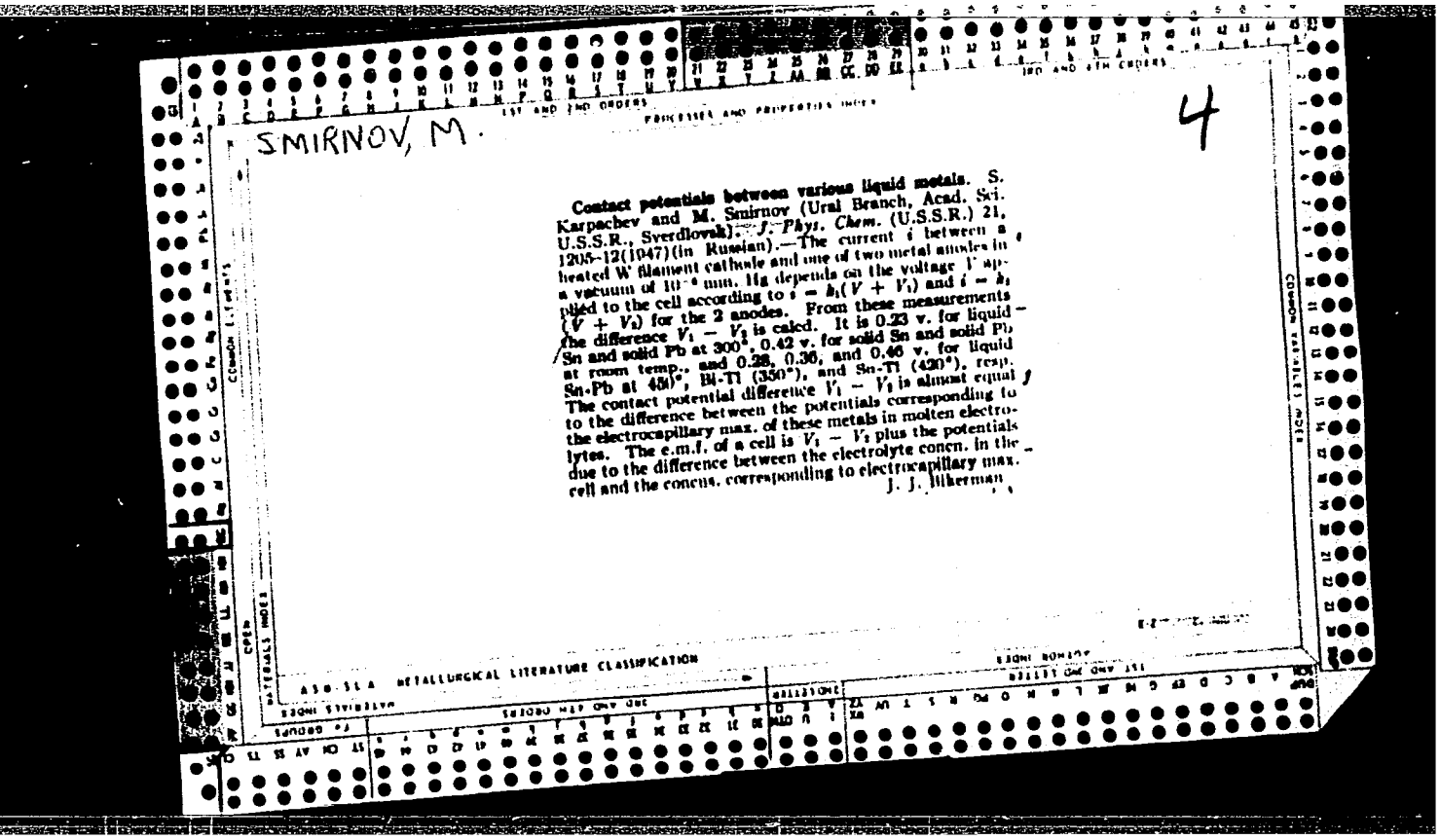
METALLURGICAL LITERATURE CLASSIFICATION



CA

18

Aluminum oxide. P. F. Antipin, M. N. Smirnov, and A. I. Svistunov. U.S.S.R. 67,916, Feb. 28, 1947. To increase the yield of Al_2O_3 in the Bayer process, there is added to the leached pulp a small quantity of org. matter, such as mono- or polyhydric alc., dibasic acid, hydroxy acid, mono- or polysaccharide, urea, pectinous substance, protein or its degradation product, or cellulose, straw, or sawdust. M. Hosek



SMIRNOV, M.

4

Contact potentials between various liquid metals. S. Karpachev and M. Smirnov (Ural Branch, Acad. Sci. U.S.S.R., Sverdlovsk).—*J. Phys. Chem.* (U.S.S.R.) 21, 1205–12(1947)(in Russian).—The current i between a heated W filament cathode and one of two metal anodes in a vacuum of 10^{-6} mm. Hg depends on the voltage V applied to the cell according to $i = k_1(V + V_1)$ and $i = k_2(V + V_2)$ for the 2 anodes. From these measurements the difference $V_1 - V_2$ is calcd. It is 0.23 v. for liquid Sn and solid Pb at 300°, 0.42 v. for solid Sn and solid Pb at room temp., and 0.28, 0.36, and 0.46 v. for liquid Sn-Pb at 450°, Bi-Tl (350°), and Sn-Tl (420°), resp. The contact potential difference $V_1 - V_2$ is almost equal to the difference between the potentials corresponding to the electrocapillary max. of these metals in molten electrolytes. The e.m.f. of a cell is $V_1 - V_2$ plus the potentials due to the difference between the electrolyte concn. in the cell and the concns. corresponding to electrocapillary max.

J. J. Lilerman

SHIRKOV, M. N.

"Studying the Fundamental Operations of Deriving Cryolite by the Alkaline Method." Cand Tech Sci, All-Union Aluminum Magnesium Inst (VAMI), Leningrad, 1954. (RZhKhim, No 1, Jan 55)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (13)
SO: Sum. No. 598, 29 Jul 55

SOV/137-58-10-20698

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 10, p 52 (USSR)

AUTHOR: Katsenelenbogen, P.D., Krochevskiy, V.A., Smirnov, M.N.

TITLE: Complex Utilization of Kola Nepheline Concentrate (Kompleksnoye ispol'zovaniye Kol'skogo nefelinovogo kontsentrata)

PERIODICAL: V sb.: Legkiye metally. Nr 4. Leningrad, 1957, pp 37-43

ABSTRACT: Note is taken of a number of features of production engineering and equipment found in the course of investigations of and development of a procedure at the Volkhov Aluminum Plant. Emphasis is given to the need for preparing the charge on the basis of extraction of aluminate caustics and Ca silicate. Permissible maxima for impurities in the limestone and the nepheline concentrate are established. It is recommended that sintering be done to a dense condition such as clinker. It is desirable to combine grinding and leaching of the sinter at 68-70°C. The concentration of aluminate solutions is 80-90 g Al_2O_3/liter. The grain size of the ground clinker is from + 1 to -0.088 mm. The time required for silicon removal is 2-3 hours at 160-170°. It is desirable that carbonization be in 2 stages, the residual Al_2O_3 contents being 4 g/liter in the first

Card 1/2

Complex Utilization of Kola Nepheline Concentrate

stage and 0.1-0.2 g/liter in the second. Equipment is chosen for each stage in the process, and a procedure for the employment thereof is developed. A high-output thickening filter, rendering contact between solids and fluids impossible (to avoid secondary reactions) is designed and perfected.

L.P.

1. Nephelites--Processing 2. Nephelite ores--Applications

137-58-6-11915

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 105 (USSR)

AUTHOR Smirnov, M.N.

TITLE: The Causes for the Differences in Degree of Extraction from Diaspore Bauxites on Leaching Without Addition of Activators (O prichinakh razlichnoy vskryvayemosti diasporovykh boksitov pri vyshchelachivanii bez vvedeniya aktiviziruyushchikh veshchestv)

PERIODICAL: Tr. Vses. alyumin.-magn. in-ta, 1957, Nr 39, pp 24-35

ABSTRACT: The results of laboratory investigations in the extraction of Al_2O_3 relative to the content of various impurities in diaspore bauxites are set forth. The effects of the presence of $CaCO_3$ and Fe^{2+} and of the evenness of distribution of these impurities are investigated. The influence of organic impurities of the humic type (soluble in caustics) and of organic substances soluble in benzene are clarified. The effects of the size of the diaspore and the hydrate form of SiO_2 are determined and the influence of length of storage is elucidated. The dependence of the degree of extraction of Al_2O_3 upon these factors is set forth in 9 tables showing that in each specific instance it is necessary

Card 1/2

The Causes for the Differences (cont.)

to take into consideration the effect not of just one, but of two or more of these factors together.

A.P.

1. Aluminum ores--Impurities 2. Aluminum ores--Processing

Card 2/2

Smirnov, M N

137-58-5-9273

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 5, p 70 (USSR)

AUTHOR: Smirnov, M.N.

TITLE: Means of Increasing the Extraction of Aluminum Oxide in the Process of Leaching of Diaspore Bauxites Which are Difficult to Strip (Povysheniye izvlecheniya okisi alyuminiya pri vyshchelachivanii trudno vskryvayushchikhsya diasporovykh boksitov)

PERIODICAL: Tr. Vses. alyumin.-magn. in-ta. 1957, Nr 39, pp 36-43

ABSTRACT: Investigations were performed to evaluate the feasibility of increasing the intensity of the process of leaching of diaspore bauxites which are not readily leached by the standard process. It was established that leaching of these bauxites may be made more efficient by means of simultaneously employing the following measures: increasing the consumption of lime by 5%, raising the temperature to 225°C, grinding the material to 0.105 mm particle size, and increasing the duration of the process. Better results are obtained if CaO is replaced by barium oxide.

1. Bauxite--Processing 2. Aluminum oxide--Production 3. Barium oxide--Applications

L.P.

Card 1/1

137-58-5-9270

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 5, p 70 (USSR)

AUTHOR: Smirnov, M.N.

TITLE. Activating Effect of Certain Organic Substances in the Process of Leaching of Diaspore Bauxites (Aktiviziruyushcheye deystviye nekotorykh organicheskikh veshchestv pri vyshchelachivanii diasporovykh boksitov)

PERIODICAL: Tr. Vses. alyumin.-magn. in-ta, 1957, Nr 39, pp 44-51

ABSTRACT: In the course of studying the process of leaching of diaspore bauxites with synthetic and industrial aluminate-lye solutions it has been established that the susceptibility to leaching is strongly influenced by organic impurities in a solution which contain alcohol groups. The activating influence of these organic substances is manifested in the increased activity of lime which, under these circumstances, becomes more soluble in an aluminate-lye solution. In the process of leaching, the action of the organic substances varies owing to various contents of the activating substances, such as compounds of Ca and ferrous Fe. When employing standard methods to determine the susceptibility of bauxite to leaching, it is advisable to introduce appropriate

Card 1/2

Activating Effect of Certain (cont.)

organic substances into the solution so as to avoid obtaining indices that would be lower than the true values.

L. P.

1. Bauxite--Processing materials--Applications 2. Lye aluminates--Applications 3. Organic

Card 2/2

Smirnov, M.N.

137-58-5-9271

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 5, p 70 (USSR)

AUTHOR: Smirnov, M.N.

TITLE: Activating Effect of Lime and Certain Other Compounds in the Process of Leaching of Diaspore Bauxites (Aktiviziruyushcheye deystviye izvesti i nekotorykh drugikh soyedineniy pri vyshchelachivanii diasporovykh boksitov)

PERIODICAL: Tr. Vses. alyumin.-magn. in-ta, 1957, Nr 39, pp 52-61

ABSTRACT: In the process of leaching of diasporic bauxites, activation is effected by a number of calcium compounds (apart from the activating influence of lime) which react with aluminate-lye solutions and form tricalciumhydroaluminate and $Ca(OH)_2$. More powerful activation is obtained with Sr and Ba compounds. The leaching process is also activated by compounds of Fe^{2+} which react with hydroxyl ions of the solution to form $Fe(OH)_2$; their activating properties are approximately one-half as strong as those of the CaO. Lime appears to be the most rational activating agent. CaO should be introduced in amounts equivalent to 4% of bauxite by weight into bauxites which dissociate normally. This proportion may be reduced if the bauxite already contains

Card 1/2

Activating Effect of Lime (cont.)

activating ingredients. However, the total sum of Ca and Fe^{2+} compounds in the charge, taking oxidation into account and taking one-half of the Fe^{2+} content, must amount to 4% of bauxite by weight.

N. P.

1. Bauxite--Processing 2. Calcium compounds--Chemical reactions 3. Lye aluminates--Chemical reactions 4. Strontium compounds--Chemical reactions 5 Barium compounds--Chemical reactions

SOV/ 137-58-7-14216

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 7, p 36 (USSR)

AUTHOR: Smirnov, M.N.

TITLE: ~~On the Cause of~~ the Initial (at 500-520°C) Melting of Soda-Calcium Fluoride Mixtures in the Role of Active Additives as a Means of Combating This Phenomenon [O prichine pervichnogo (pri 500-520°) plavleniya sodo-ftorkal'tsiyevykh shikht i roli aktivnykh dobavok kak sredstva bor'by s etim yavleniyem]

PERIODICAL: Tr. Vses. n.-i. alyumin.-magn. in-ta, 1957, Nr 40, pp 151-163

ABSTRACT: The melting points of mixtures of the CaF_2-Na_2CO_3 type were determined by cryoscopic investigation of the melts and the variation of the melting temperature on the addition of sodium silicate and silicon dioxide. Observations of visible melting of mixtures at 500°C were made. It is determined that the CaF_2-Na_2CO_3 mixture has a eutectic of the composition 36% CaF_2, 64% Na_2CO_3 which melts at 555°. Melting of mixtures composed of fluorite and soda is related to the eutectic melting in the system CaF_2-Na_2CO_3-Na_2SiO_3. The addition to the

Card 1/2

On the Cause of the Initial (at 500-520°C) Melting of Soda-Calcium (cont.)

soda-calcium fluoride mixture of a third constituent in the active form (SiO_2, Fe_2O_3) eliminates the visible melting of the mixture. Evidently, owing to its high wettability, the third constituent, in the main, absorbs the liquid phase. The same results are produced by the addition of a third constituent in the inactive form but in considerably greater quantities.

L.P.

1. Calcium-fluoride-sodium mixtures--Melting

SOV/137-58-7-14217

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 7, p 36 (USSR)

AUTHOR: Smirnov, M.N.

TITLE: The Kinetics of the Formation of Sodium Fluoride in the Reaction of Calcium Fluoride With Soda (Kinetika obrazovaniya ftoristogo natriya pri vzaimodeystvii ftoristogo kal'tsiya s sodoy)

PERIODICAL: Tr. Vses. n.-i. alyumin.-magn. in-ta, 1957, Nr 40, pp 164-170

ABSTRACT: The yield of NaF from the sintering of mixtures under different conditions is determined; the constants for the rate of reaction under these conditions are calculated. It is determined that the formation of NaF from the reaction of CaF_2 with soda in the liquid state proceeds according to the reaction: $CaF_2 + Na_2CO_3 \rightarrow NaF + CaO + CO_2$. An equimolecular mixture of CaF_2 and Na_2CO_3 melts at 550°C. Interaction in the melt goes on with considerable speed at >900°. The reaction of the formation of NaF obeys a linear equation. The relationship between the constant of the rate of reaction and the temperature in the range 700-1100° is subordinated to the

Card 1/2

SOV/ 137-58-7-14217

The Kinetics of the Formation of Sodium Fluoride (cont.)

Arrhenius equation. The activation energy of the formation of NaF is 14, 850 cal.

A.P.

1. Sintering--Analysis 2. Sodium floride--Synthesis 3. Calcium fluoride--Chemical reactions 4. Sodium--Chemical reactions

Card 2/2

SOV/137-58-7-14535

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 7, p 85 (USSR)

AUTHOR: Smirnov, M.N.

TITLE: Rate of Formation of Sodium Fluoride on Sintering of Calcium Fluoride With Soda in the Presence of Silica in an Active Form, and the Nature of the Reactions Occurring Therein (Skorost' obrazovaniya ftoristogo natriya pri spekanii ftoristogo kal'tsiya s sodoy v prisutstvii kremnezema v aktivnoy forme i kharakter proiskhodyashchikh pri etom vzaimodeystviy)

PERIODICAL: Tr. Vses. n.-i. alyumin.-magn. in-ta, 1957, Nr 40, pp 171-187

ABSTRACT: Experimental data are adduced on the kinetics of the formation of NaF and Na silicate at various temperatures and mix compositions, as are reaction-rate constants arrived at in the course of mathematical analysis of these data. It is found that the formation of NaF in sintering is by the reaction of the CaF_2 with the Na silicate formed. The process attains a high rate at 800-850°C. Under these conditions a mix with a 1:1:1 molecular ratio between CaF_2, Na_2CO_3 and SiO_2 yields the best results. The yield of NaF is 85-87%; 10-12% consists of losses

Card 1/2

SOV/137-58-7-14535

Rate of Formation of Sodium Fluoride on Sintering (cont.)

of caustic in insoluble form due to the formation of sodium-calcium silicates. A 15% excess of Na_2CO_3 and a 20% excess of SiO_2 in the charge over the stoichiometric molecular ratio raises the NaF yield to 95-96%. Equations are adduced characterizing the kinetics of NaF formation and the temperature ratio of the reaction-rate constants, the latter being given for various temperature intervals.

L.P.

1. Fluorspar--Sintering 2. Sodium fluorides--Production
3. Chemical reactions--Velocity 4. Mathematics--Applications

Card 2/2

SMIRNOV, M.N.

Producing activated aluminum oxide from carbonizer and decomposer scale. Biul. TSIIN tsvet. met. no. 7:27-29 '58. (MIRA 11:7)
(Aluminum oxides)

S/136/60/000/011/006/013
E071/E433

Semi-Industrial Testing of a Carbonator With a Top Gas Supply

and air tube 25 mm in diameter. The gas distributor consisted of a two ring chamber 2 and six submerged grates 3, placed over each other at a distance of 150 mm. Carbon dioxide was supplied through pipes 5 into the ring feeder and then through six vertical pipes into the ring chambers from which it is passed into the solution through comb-like channels 150 mm below the grate. The grates were made from rods 5 mm in diameter, forming a network with holes 5 x 10 mm. The total cross section of the holes was about 30% of the total surface area of the grate. Inside the carbonator there was a steam pipe, supplying direct steam for heating, and in the conical part there were four pipes supplying compressed air in order to prevent the formation of aluminium hydroxide deposits. It was expected that the duration of the process in the new carbonator would remain at least the same as in the old, existing type of apparatus. Tests of airlift as a stirrer indicated that it works satisfactorily at a consumption of 90 to 100 m3/hr of air. The types of carbon dioxide distributor tested, before the above described design was finally adopted, are shown in Figs.2 and 4. The dependence of the coefficient of utilization of carbon dioxide

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Semi-Industrial Testing of a Carbonator With a Top Gas Supply

on the height of the layer through which it was bubbled is plotted in Fig.5 (broken line - extrapolation). During the test the height of the above layer was varied from 1200 to 1760 mm. The experimental results are given in Table 1. Comparisons of size distribution of aluminium hydroxide produced in the tested and in an industrial carbonator are given in Table 2. The following conclusions are arrived at: 1. The airlift arrangement for stirring the solution can secure the necessary change of the liquid phase where it is in contact with the gas. 2. The gas bubbling arrangement worked satisfactorily and the carbonator with top gas supply can be recommended for industrial application. 3. The duration of the process does not exceed 10 hours. 4. The coefficient of utilization of carbon dioxide depends on the height of the layer through which the gas is bubbled and for a layer of 850 to 1500 mm varies from 50 to 62% respectively (in the present carbonators with the bottom supply of gas this coefficient amounts to 69%). 5. Low pressure blowers and high pressure fans can be used for the proposed type of carbonator. In the latter case the distance between the grates should be reduced to 100 mm. 6. Blocking of grates during

Card 3/4

S/136/60/000/011/006/013
E071/E433

Semi-Industrial Testing of a Carbonator With a Top Gas Supply

the operation of the carbonator was not observed. 7. The size distribution of aluminium hydroxide produced in the carbonator was not materially different from that produced in the present type carbonators (in fact size distribution of the experimentally produced hydroxide was somewhat coarser - Table 2). 8. The introduction of carbonators with the top feed into the industry will reduce power requirements and, in the case of new plants, will somewhat reduce capital expenditure. The following participated in the experimental work: G.G.Yeskina, N.M.Kontorovich, M.A.Dudko, Ye.N.Tyuleneva, V.V.Borzenko, L.A.Ganaga. There are 5 figures, 2 tables and 4 Soviet references.

Card 4/4

SMIRNOV, M.N., kand.tekhn.nauk

Cryolite formation process in the interaction of sodium fluoride with aluminum hydroxide. TSvet.met. 34 no.10:59-64 O '61. (MIRA 14:10)

(Cryolite) (Aluminum hydroxide) (Sodium fluoride)

SMIRNOV, M.N.; TSYMBAL, F.I.

Investigating the crystallization process of sodium aluminate from thickened liquors in the Bayer process of alumina production. TSvet. met. 35 no.1:59-66 Ja '62. (MIRA 16:7)
(Aluminum--Metallurgy)

SMIRNOV, M.N.; TIKHONOV, N.N.

Effect of agitation on the kinetics of aluminum oxide recovery during the autoclave leaching of diasporous bauxites. TSvet. met. 35 no.6:46-51 Je '62. (MIRA 15:6)
(Bauxite) (Leaching)

SMIRNOV, M.N.

Chemism of the process and composition of solid phases formed by the interaction of aluminum and sodium fluorides. TSvet. met. 35 no.9:61-67 S '62. (MIRA 16:1)
(Aluminum fluoride) (Sodium fluoride)
(Chemistry, Metallurgic)

SMIRNOV, M.N.

Metastable solubility of silica in aluminate solutions. Zhur.prikl. khim. 37 no.1:16-22 Ja '64. (MIRA 17:2)

SMIRNOV, N. N.

Maize

Persistantly introduce corn as a feed crop in the non-chernozem zone. Korm. baza 3 no. 5, 1952.

9. MONTHLY LIST OF RUSSIAN ACCESSION, Library of Congress, September 1952. Uncl.

Smirnov, M. M.

7752 Vidoveye rayonirovaniye silosnykh, kormovykh, bakhchevykh kul'tur I kornekluboplodov. utv. 21/x 1954 S.M., izd-vo m-va sel'skogo khozyaystva sssr, 1955, 328. 22sm. (sluv. upr. s.-kh. propagandy I nauki m-va sel'skogo khozyaystva sser). 20.000 ekz. Bespl.-V konts: tekst avt. razrabotki: P.Ye. Marinich, A. I. Vytchikov, M. F. Nelsukov, A. L. Mikhal'chuk, I. A. Poleshayev, M. F. Sarra, M. M. Smirnov, B. F. Solov'yev. - (55-3895)
633.2/4:631.52

SO. Knizhnaya Letopis', Vol. 7, 1955

MINAYEVA, V.G.; SMIRNOV, M.N.; YAKUBOVA, A.I.

Primary investigation of the podded erysimum under cultivation.
Trudy Bot. sada Zap.-Sib. fil. AN SSSR no.1:27-31 '56. (MIRA 14:7)
(Erysimum)

SMIRNOV, M.N.

Cultivation of the thistle Rhaponticum carthamoides. Trudy Bot. sada Zap.-Sib. fil. AN SSSR no.1:47-53 '56. (MIRA 14:7)
(Thistle)

SMIRNOV, M.N.

The character of the development of the raw material and of the accumulation of the heart glucosides in celandine grown in the Botanical Garden of ZSFAN (Western Siberian Branch Acad. Sci.) of the U.S.S.R. V. G. Minaeva and M. N. Smirnov. *Trudy Botan. Sada, Zapad. Sibir. Filiala Akad. Nauk S.S.S.R.* 1, 73–4(1956); *Referat. Zhur., Khim., Biol. Khim.* 1957, No. 5077.—The glucoside content in the growing celandine was 4.6 times as high during the period of blooming as during the period of budding. During the following maturing stages of the plant the glucoside content was reduced. B. S. Levine

SMIRNOV, M.N.; KOLESNIKOVA, S.M.

Biomorphologic characteristics of alfalfa Medicago tianschanica Vass. in its introduction in Western Siberia. Trudy TSSBS no.4: 87-94 '60. (MIRA 15:4)

(Siberia, Western--Alfalfa)

SMIRNOV, Mikhail Pavlovich, polkovnik; VARENYSHEV, Boris Vasil'yevich, polkovnik; KONKIN, P.I., polkovnik, red.; SOKOLOVA, G.F., tekhn. red.

[Engineer support of tank operations] Inzhenernoe obespechenie deistvii tankov. Moskva, Voenizdat, 1962. 169 p. (MIRA 15:7)

(Military field engineering)
(Tank warfare)

SMIRNOV, M.P.

Automatic line for making asbestos cement products using new molding methods. Stroi.mat. 5 no.12:14-16 D '59. (MIRA 13:3)

1. Nachal'nik nauchno-konstruktorskogo otdela Vsesoyuznogo nauchno-issledovatel'skogo instituta po mashinam dlya promyshlennosti stroitel'nykh materialov. Stroi.mat. 5 no.12:14-16 D '59. (MIRA 13:3)

(Asbestos cement) (Automation)

SHAPIRO, Mikhail Semenovich; SMIRNOV, Mikhail Prokof'yevich; SAFONOV, N.T., inzh., retsenzent; BERZON, E.M., kand. tekhn. nauk, red.; FOMICHEV, A.G., red. izd-va; SHCHETININA, L.V., tekhn. red.

[Equipment for asbestos-cement production] Oborudovanie asbestotsementnogo proizvodstva. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1961. 155 p. (MIRA 15:3)
(Asbestos cement)

SMIRNOV, M.P.

Studying subsoil runoff in the northern part of the Western Sayan Mountains, Yermakovskoye Permanent Field Station. Pochvovedenie no.4:93-100 Ap '63. (MIRA 16:5)

1. Institut lesa i drevesiny Sibirskogo otdeleniya AN SSSR.
(Yermakovskoe region--Runoff)

SMIRNOV, M.P., kandidat tekhnicheskikh nauk.

Examining the causes of the deformation of the railroad bed. Sbor. LIIZHT no.146:65-92 '54. (MLRA 8:1)
(Railroads--Earthwork)

SMIRNOV, M.P., kandidat tekhnicheskikh nauk; KOVALEVSKIY, D.V., inzhener.

On the system of changing railroad ties. Sbor. LIIZHT no.146:93-100 '54. (MLRA 8:1)
(Railroads--Ties)

SKORODUMOV, Georgiy Yevgen'yevich; SHIRNOV, Mikhail Petrovich; PETRUNIN, Ivan Ivanovich; POLYAKOV, Aleksandr Mikhaylovich; RYBAKOV, A.K., inzhener, redaktor; VERINA, G.P., tekhnicheskiy redaktor

[Maintenance of narrow-gage railroad tracks; experience of workers on the Baltic line] Soderzhanie zheleznodorozhnogo puti uzkoi kolei; opyt puteitsev Baltiiskoi dorogi. Moskva, Gos.transp.zhel-dor. izd-vo, 1955. 109 p. (MIRA 9:3)
(Railroads, Narrow--Gauge)

SKORODUMOV, G.Ye., kandidat tekhnicheskikh nauk; SMIRNOV, M.P., kandidat tekhnicheskikh nauk; SHPAKOV, I.V., kandidat tekhnicheskikh nauk.

Asbestos silicalcite ties. Put' i put.khoz. no.6:12-15 Je '57. (MIRA 10:7)

(Railroads--Ties)

SMIRNOV, M.P., kandidat tekhnicheskikh nauk.

On slopes for switch boxes. Put' i put. khoz. no.7:29-30 Jl '57.
(Railroads--Switches) (MLRA 10:8)

133-8-27/28

AUTHORS: Grave, I.P., Smirnov, M.P., Yakovlev, V.F., (Cands.Tech.Sc.) and Prokop'yev, N.M. (Engineer).

TITLE: Jointless tracks on a monolithic foothold on metallurgical works. (Besstykovyye puti na monolitnom osnovanii v metallurgii).

PERIODICAL: "Stal'" (Steel), 1957, No.8, pp.762-764 (USSR).

ABSTRACT: Service conditions of rails on tracks in some departments of iron and steel works (hot metal ladles, ingot tracks) are discussed. In view of heavy working conditions and difficulties in carrying out proper maintenance, the Leningrad Institute of Engineers of the Railway Transport proposed the use of monolithic concrete bases and welded rail joints for such tracks. Deficiencies and advantages of the monolithic base are discussed. Two versions of a monolithic base (Figs.1 and 2 respectively) are described. The method of fixing rails is shown in Fig.3. There are 3 figures.

Card 1/1

ASSOCIATION: Leningrad Institute of Engineers of the Railway Transport. (Leningradskiy Institut Inzhenerov Zheleznodorozhnogo Transporta).

AVAILABLE: Library of Congress

AMELIN, S.V., prof., zasluzhennyy deyatel' nauki i tekhniki; IVASHCHENKO, G.I., kand.tekhn.nauk; SMIRNOV, M.P., kand.tekhn.nauk; YAKOVLEV, V.F., kand.tekhn.nauk

Test performance on the track of new flat-type switch boxes. Vest.TSNII MPS 18 no.8:40-44 D '59. (MIRA 13:9)
(Railroads--Switches)

SKORODUMOV, Georgiy Yevgen'yevich, kand. tekhn. nauk; SMIRNOV, Aleksey Ionovich, kand. tekhn. nauk; SMIRNOV, Mikhail Petrovich, kand. tekhn. nauk; OSIPOV, M.I., inzh., retsenzent [deceased]; TSUKANOV, P.P., kand.tekhn.nauk, red.; BOBROV, Ye.N., tekhn. red.

[Narrow gauge (750 mm.) track design, maintenance, and repair] Ustroistvo i soderzhanie zheleznodorozhnogo puti uskoi kolei (750 mm). Moskva, Vses. izdatel'sko-poligr. ob"edinenie M-va putei soobshcheniia, 1961. 262 p. (MIRA 14:12)

(Railroads, Narrow-gauge--Track)

SHAKHUNYANTS, Georgiy Mikhaylovich, doktor tekhn. nauk; AMELIN, S.V., prof., retsenzent; KONSTANTINOV, V.N., dots., retsenzent; SMIRNOV, M.P., retsenzent; YAKOVLEV, V.F., retsenzent; BOCHENKOV, M.S., kand.tekhn. nauk, retsenzent; BROMBERG, Ye.M., retsenzent; YERSHKOV, O.P., retsenzent; ZVEREV, B.N., retsenzent; ZOLOTARSKIY, A.F., retsenzent; IVASHCHENKO, G.I., retsenzent; LINEV, S.A., retsenzent; MARKAR'YAN, M.A., retsenzent; POPOV, V.V., retsenzent; POPOV, S.N., retsenzent; SEREBRENNIKOV, V.V. retsenzent; SHAFRANOVSKIY, A.K., retsenzent; NOVITSKIY, G.I., inzh., retsenzent; VIKTOROV, I.I., kand.tekhn.nauk, retsenzent; VYSOTSKIY, A.F., kand.tekhn.nauk, retsenzent; SAATCHYAN, G.G., kand.tekhn.nauk, retsenzent; YAKOVLEVA, Ye.A., kand.tekhn.nauk, retsenzent; TITOV, V.P., kand.tekhn.nauk, retsenzent; GRUSHEVOY, N.G., inzh., red.; BROMBERG, Ye.M., kand.tekhn.nauk, red.; KHITROV, P.A., tekhn. red.

[Railroad tracks] Zheleznodorozhnyi put'. Moskva, Vses.izdatel'sko-poligr.ob"edinenie M-va putei soobshcheniia, 1961. 615 p. (MIRA 14:12)

1. Kafedra "Zheleznodorozhnyy put'" Leningradskogo instituta inzhenerov zheleznodorozhnogo transporta (for Amelin, Konstantinov, Smirnov, Yakovlev). 2. Vsesoyuznyy nauchno-issledovatel'skiy institut zheleznodorozhnogo transporta (for Bochenkov, Bromberg, Yershkov, Zverev, Zolotarskiy, Ivashchenko, Linev, Markar'yan, Popov, V.V., Popov, S.N., Serebrennikov, Shafranovskiy, Novitskiy). 3. Vsesoyuznyy nauchno-issledovatel'skiy institut transportnogo stroitel'stva (for Viktorov, Vysotskiy, Saatchyan, Yakovleva, Titov)

(Railroads—Track) (Railroad engineering)

AMELIN, S.V., doktor tekhn. nauk,prof.; SMIRNOV, M.P., kand. tekhn. nauk, dotsent; YAKOVLEV, V.F., kand. tekhn. nauk, dotsent

Investigating the wear resistance of the elements of the switch assembly. Sbor. trud. LIIZHT no.188:5-62 '62. (MIRA 16:7)

(Railroads--Switches)

AMELIN, S.V., doktor tekhn. nauk. prof.; SMIRNOV, M.P., kand. tekhn. nauk, dotsent; YAKOVLEV, V.F., kand. tekhn. nauk, dotsent

Problems of track and rolling stock interaction within the area of switch tracks. Sbor. trud. LIIZHT no.188:63-117 '62. (MIRA 16:7)

(Railroads--Track) (Railroads--Rolling stock)

AMELIN, S.V., doktor tekhn. nauk, prof.; SMIRNOV, M.P., kand. tekhn. nauk, dotsent; YAKOVLEV, V.F., kand. tekhn. nauk, dotsent

Investigating the performance of flat type switch assembly elements in case of various wear conditions of the car wheel treads. Sbor. trud. LIIZHT no.188:118-150 '62. (MIRA 16:7)

(Railroads--Switches)

AMELIN, S.V., prof., doktor tekhn.nauk; IVASHCHENKO, G.I., kand.tekhn.nauk; SMIRNOV, M.P., kand.tekhn.nauk; YAKOVLEV, V.F., kand.tekhn.nauk

Deformations and stresses in the 1/18 mark switches. Vest.TSNIIMPS 21 no.7:45-48 '62. (MIRA 15:12)

(Railroads—Switches)

AMELIN, S.V., doktor tekhn. nauk, prof.; SMIRNOV, M.P., kand. tekhn. nauk, dotsent; YAKOVLEV, V.F., kand. tekhn. nauk, dotsent

Effect of the narrowing of the gauge on the state of stress of railroad tracks and on the smoothness of train movement. Sbor. trud. LIIZHT no.191:3-27 '63.

State of stress and deformations of type R50 switches of the 1/11 marking at a gauge width of 1518 millimeter on the running track and of 1530 millimeter on the track leading into sidings. Ibid.:28-107

Switches of the 1/11 marking for high-speed traffic in the straight direction. Ibid.:108-123 (MIRA 16:12)

AMELIN, S.V., prof. (Leningrad); SMIRNOV, M.P., dotsent (Leningrad); YAKOVLEV, V.F., dotsent (Leningrad)

Facts learned from research and experience. Put' i put. khoz. 7 no.5:21-24 '63. (MIRA 16:7)

(Railroads—Track)

AMELIN, [illegible] nauk, prof.; [illegible] tekhn. nauk, [illegible], V.F., kand. [illegible]

[illegible] 1/[illegible] Vest. TS[illegible] 22 no.5: 5-7 [illegible] (MIRA [illegible])

1. Leningradskiy institut [illegible] zheleznodorozhnogo transporta imeni [illegible]tsova.

AMELIN, S.V., doktor tekhn.nauk; SHIRNOV, M.P., kand.tekhn.nauk;
YAKOVLEV, V.F., kand.tekhn.nauk

Train speed over switches. Put' i put.khoz. 8 no.6:30-33 '64.
(MIRA 17:9)

SMIRNOV, M.P., kand. tekhn. nauk (Leningrad); YAKOVLEV, V.F., kand. tekhn. nauk (Leningrad)

Performance of screw pikes under train loads. Put' i put. khoz. 9 no.2: 34-35 '65. (MIRA 18:7)

Smirnov, M. P.

AID P - 917

Subject : USSR/Chemistry

Card 1/1 Pub. 152 - 8/22

Authors : Chizhikov, D. M. and Smirnov, M. P.

Title : Removal of zinc from lead-zinc alloys by the vacuum method

Periodical : Zhur. prikl. khim., 27, no. 5, 514-526, 1954

Abstract : The optimum temperature for this process is 600°C. At that temperature the highest amount of zinc can be extracted (96-98%), and the condensate contains the lowest amount of lead (0.03-0.07% of the initial amount). Seven tables, 14 diagrams, 3 references (2 Russian: 1935-1951).

Institution : State Institute of Nonferrous Metals

Submitted : Ja 17, 1953

SINAYSKIY, G.M.; SMIRNOV, M.P.; RASPOPOVA, L.V.; VESTEL', G.M.; KRISTYAN, M.A.

Protection of heat exchangers from corrosion by water. Khim.prom. no.7:419-423 O-N '55. (MLRA 9:3)
(Heat exchangers--Corrosion)

SMIRNOV, M.P.

Industrial test of the vacuum method of dezincing lead in a 50-ton reactor. TSvet.met. 28 no.3:20-26 My-Je '55 (MIRA 10:11)
(Vacuum metallurgy) (Lead--Metallurgy)

SOV/137-57-1-472

Translation from: Referativnyy zhurnal. Metallurgiya, 1957, Nr 1, p 62 (USSR)

AUTHORS: Smirnov, M. P., Tarkhov, N. G.

TITLE: Vacuum Method for the Sublimation of Zinc From Zinc-silver Scum (Vakuumnyy sposob distillyatsii tsinka iz serebristoy peny)

PERIODICAL: Byul. Tsentr. in-t inform. tsvet. metallurgii, 1956, Nr 3, pp 13-19

ABSTRACT: The authors carried out laboratory experiments on vacuum sublimation (VS) of Zn from either dry or moist zinc-silver scum. The results of the experiments on VS of Zn from dry scum showed that the optimum temperature for the process is 1000°C; the yield of sublimated Zn is 94 - 98%. A decrease in temperature increases greatly the amount of dross. For VS it is desirable to have dry scum with a minimum amount of powdery fraction. The optimum particle size is 8 - 10 mm. The yield of zinc-free dross is 17 - 20% of the foam by weight. Through experimenting on VS of Zn from moist scum it was established that the optimum temperature is 900°. The extraction of Zn through sublimation is 98%, while the amount of dross is only 6 - 8%. In proportion, $\leq$ 9% Ag passes into the dross. In the case of VS from crude scum the latter requires no additional treatment,

Card 1/2

Vacuum Method for the Sublimation of Zinc From Zinc-silver Scum

and the prodedure of creating a good vacuum is also facilitated. A comparison of industrial shop data with the results of extended experiments is made. The best results are produced by VS from crude scum. The temperature of the process is decreased by 300 - 400° with a 30% extraction of Zn in the metallic form and a decrease in dross output. The sanitary-hygienic conditions are improved through the absence of any evolution of gas. Engineering and cost estimates for the method of VS of Zn from scum show that it is more profitable than the existing method.

L. S.

SMIRNOV, M.P.

18 F4E2c

X-Ray Investigation of the Phase Composition of Lead–Calcium Alloys. M. P. Smirnov and V. E. Rudnichenko (*Analiz Rud Tsvetnykh Metal. i Produktov ikh Pererabotki*, 1956, (12), 150–162; *C. Abs.*, 1957, 51, 5676).—[In Russian]. The work was undertaken to study the mechanism of Bi-removal process. The X-ray investigations show that Ca forms three alloys: (*a*) Pb–Ca (72% Pb), m.p. 1110° C.; (*b*) Pb–Ca (83·8% Pb), m.p. 950° C.; and (*c*) $CaPb_3$ (83·95% Pb), m.p. 670° C. The X-ray analysis confirms that Ca in the Pb–Ca alloys appears as $CaPb_3$, which acts in the process of Bi removal. The rapid X-ray method of $CaPb_3$ detn. is described.

SMIRNOV, M.P.; TARKHOV, N.G.; SERGIYENKO, V.Ya.

Introducing vacuum techniques for de-zincing lead at the Chimkent Plant. TSvet.met. 29 no.5:19-23 My '56. (MLRA 9:8)

1. Gintsvetmet (for Smirnov, Tarkhov); 2. Chimkentskiy svintsovyy zavod (for Sergiyenko).
(Chimkent--Lead--Metallurgy)

SMIRNOV, M.P.; KUDRYASOVA, L.N.

Study of the constitution diagrams of PbS - Na_2S - Na_2SO_4. TSvet. met.29 no.12:36-42 D '56. (MLRA 10:2)

1. Gintsvetmet.
(Systems (Chemistry)) (Lead sulfide) (Sodium sulfides)

Smirnov, M. P.

4

The determination of the phase composition of silver foams by the röntgenographic method. M. P. Smirnov and V. E. Rudnichenko. *Zhur. Prikład. Khim.* 29, 293–9 (1956).—Dry and raw foam collected at different times in a Pb refinery contg. Ag 3.5–9.2, Zn 19–25, and Pb 47–75% were examd. röntgenographically. The Ag is present as the ε phase of the Ag-Zn system approaching the compn. of $AgZn_4$ with lattice parameters $a = 2.8$ and $c = 4.37$ kx. No other Ag compds. or solid solns. were detected. Pb and some oxides of Pb and Zn were present. There was more of the ε-phase in the dry than in the raw foam. I. B.

Chem 2

SMIRNOV, M.P.

The determination of the phase composition of silver gams by the röntgenographic method. M. P. Smirnov and V. B. Rudnichenko. J. Appl. Chem. U.S.S.R. 29, 329-30(1956)(Engl. translation).—See C.A. 50, 12778e. B. M. R.

2

SMIRNOV, M. P.

5

27 27

Distillation of zinc from lead in vacuo. L. P. Ushkov, M. P. Smirnov, and V. Ya. Sergienko. U.S.S.R. 105,084, Mar. 25, 1957. The app. for removing Zn from Pb consists of a vacuum reactor equipped with a pump connected to the bottom of the reactor and discharging at a level above the molten mass. The pump can be either internal or outside the reactor. In operation the pump draws the molten metal from the bottom where it is enriched with Zn and sprays it above the metal level; this facilitates its distn.

M. Hosch

Chem

fra MT

Smirnov, M. P.

27 27

Apparatus for vacuum evaporation of zinc from lead. M. P. Smirnov. U.S.S.R. 106,750, July 25, 1957. Addn. to U.S.S.R. 105,084 (*C.A.* 51, 9404*h*). M. H.

3

MT

SMIRNOV, M.P.

AUTHORS: Smirnov, M.P., and Bibenina, G.A. 136-12-5/18

TITLE: Production of Pure Tellurium by a Vacuum Distillation Method (Polucheniye chistogo tellura metodom vakuumnoy distillyatsii)

PERIODICAL: Tsvetnyye Metally, 1957, No.12, pp. 17-29 (USSR).

ABSTRACT: After tabulating data (Table 1) to show the favourably-high relative vapour-pressure of tellurium, the authors describe laboratory and large-scale experiments on the production of the pure element from technical tellurium by vacuum distillation. In the small-scale laboratory experiments (Fig.1), 15 - 25-g samples of technical element were distilled at 400 to 600 °C, while in the larger scale tests (Fig.2) carried out at temperatures of 440, 450, 500 and 550 °C, the samples weighed 1 000 g. The technical product was in the form of powder, briquettes or pre-fused mass, and data are given on changes in the composition of the tellurium on melting (Table 3). Details are given of the composition of the material condensed in the various zones of the apparatus under various conditions. The results obtained show that by vacuum distillation tellurium with the following impurity contents can be obtained: $< 0.0001\%$ Ag, 0.0001- $<$ 0.0001 Cu, $< 0.0001\%$ Sb, $< 0.0001\%$ As,

Card 1/2

Smirnov, M P.

137-1958-3-4654

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 3, p 27 (USSR)

AUTHORS: Smirnov, M. P., Kudryashova, L. N.

TITLE: On the Mechanism of the Interaction Between Lead Sulfide and Alkalies (K mekhanizmu reaktsii vzaimodeystviya sul'fida svintsa so shchelochami)

PERIODICAL: Sb. nauchn. tr. Gos. n.-i. in-t tsvetn. met., 1957, Nr 13, pp 217-223

ABSTRACT: Pb, Na_2S, and Na_2SO_4 are formed when PbS reacts with an excess of NaOH, at temperatures between 500° and 700°. The excess of NaOH ensures fluidity of the fusion process. It is assumed that the reaction conforms to the formula:

$$4PbS + 8NaOH = 4Pb + 3Na_2S + Na_2SO_4 + 4H_2O.$$

Ye. Z.

Card 1/1

137-58-4-6827

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 4, p 73 (USSR)

AUTHOR: Smirnov, M. P.

TITLE: On the Vacuum Refining of Lead Containing Arsenic, Antimony, and Bismuth (K voprosu vakuumnogo rafinirovaniya svintsa ot mysh'yaka, sur'my i vismuta)

PERIODICAL: Sb. nauchn. tr. Gos. n.-i. in-t tsvetn. met., 1957, Nr 13, pp 235-242

ABSTRACT: The possibility of distilling As, Sb, and Bi in vacuum from Pb is investigated on a laboratory scale. At 700°C and a residual pressure of 0.01 mm Hg, 45.4-62.5% of the As and 0.2-1.42% of the Pb were distilled off; the As contents diminished from 0.21 to 0.12-0.08%. At 900°, under the same conditions; 76.9-98.6% of the As and 19.3-85% of the Pb were removed; 0.06-0.02% As remained in the Pb. At 600-700°, 8-10% of the Sb and Bi was removed, entraining 0.3-1% of the Pb. An increase in temperature results in both being driven off together with the Pb. Duration of the tests 30 to 120 minutes. Ye. Z.

Card 1/1 1 Lead alloys--Vacuum refining

SMIRNOV, M. P., KUDRYASHOVA, L. N. of Gintsvetmet, POLYVYANYY, I. R. et al *
LIDOV, V. P. and BLINOVA, L. A.,

"On Precipitation and Reaction Smelting of Lead Concentrates."

report submitted at a conference on new methods of lead production from concentrates, Gintsvetmet, Moscow, 22-25 June 1958.

(Soviet Source Material)

POLYVYANNYY, I. R. et al. of the Inst. Metall. and Benefication of AS KazSSR

(For entire Conf see card for Lidov V. P.)

SMIRNOV, M.P.; TARKHOV, N.G.; MARTYNOV, K.V.; KRAVCHENKO, P.T.

Vacuum removal of zinc from lead at "Electrozinc" plant. Biul. TSIIN tsvet. met. no.8:21-26 '58. (MIRA 11:6)
(Lead--Electrometallurgy) (Vacuum metallurgy)

SMIRNOV, M.P.

SOV/136-58-9-3/21

AUTHORS: Smirnov, M.P. and Kudryashova, L.N.

TITLE: ~~Alkali Method of~~ Lead Smelting (Shchelochnoy metod vyplavki svintsa)

PERIODICAL: Tsvetnyye Metally, 1958, Nr 9, pp 14-23 (USSR)

ABSTRACT: In the USSR the first research work on the alkali-fusion method of lead production was carried out in 1948 (ref 2) and the Gintsvetmet carried out further work (Refs 3,4,5) from 1953 onwards. The present report represents a continuation by the authors of their earlier work (ef 7) in this field. The method consists in the fusion at 600 - 700°C of raw concentrate with alkali to give pure lead and a melt containing the copper, zinc and gangue from the concentrate. The alkali is regenerated and a copper-zinc product is recovered from the melt by hydro-metallurgical treatment. The authors discuss the mechanism of the process and give a flowsheet (Fig 1). They go on to describe laboratory experiments mainly with rich (73% Pb) but also with leaner (38-57% Pb) materials. For these the optimal alkali/concentrate ratio was found to be 0.7-1.0. The process is rapid, apparently

Card1/2

independent of external heat and gives a lead recovery in the metal of up to 96%. They recommend a flowsheet (Fig 3) for treatment of melts. This was tested on a large laboratory scale and enables 93% of the alkali in the melt to be extracted, 50-55% of this being free sodium hydroxide leached by water. The complexity of this flowsheet is the main defect of the process, but this is not serious and in other ways the process is a simplification, eliminating sintering, shaft smelting and partly, refining.

There are 3 figures, 10 tables and 7 references (1 German, 6 Soviet)

ASSOCIATION: Gintsvetmet

 1. Lead ores--Processing 2. Lead--Production

S/137/61/000/012/049/149
A006/A101

Using radioactive isotopes to...

prior to the desilverization process) nor ore-Sb participate in desilverization and are fully preserved in Pb. A balance is given of Zn distribution during desilverization of Pb.

G. Svodtseva

[Abstracter's note: Complete translation]

Card 2/2

S/136/60/000/05/007/025
E071/E235

Industrial Tests of the Vacuo Method of Distilling Zinc From Silvery Foam

(20%) at the expense of producing lead and dross, with a lower zinc content, the further processing of which will involve lower losses of noble metals; (b) a decrease in the yield of dross by a factor of 1.5 and a decrease in the transfer of noble metals and lead into the dross; (c) an increase in the recovery of noble metals and lead into silvery lead; (d) an improvement in sanitary-hygienic conditions of working. The branch of Gintsvetmet for technical and economic investigations carried out a comparative evaluation of the existing, vacuo and electro-thermal (used in UKSTsK) methods of distillation of zinc from silvery foam which indicated that the vacuo method is the most economical. An order was placed with OKB Electropech and Works producing electro-thermal equipment for the design and construction of electrovacuo furnaces capable of dealing with the whole throughput of the Chimkent Works. In addition to the authors the following works personnel participated in the work:

Card 3/4

S/136/61/000/001/001/010
E021/E506

The Present State of Lead Refining and Means for its Improvement

for which vacuum distillation is recommended. Bismuth can be removed by the usual methods of reaction with calcium and magnesium or potassium and magnesium. The final stage is to remove the reagents which were added to remove the silver and bismuth. An alkaline treatment can be used for this. This continuous refining method should give a total extraction of lead of 95.0%, and at the same time should give an increase in productivity of two to three times. There are 1 figure and 2 tables.

ASSOCIATION: Gintsvetmet

Card 2/2

SMIRNOV, M.P.; BIBENINA, G.A.

Developing the design of an apparatus for the continuous dezincing of lead in vacuum. Sbor. nauch. trud. Gintsvetmeta no.18:216-225 '61. (MIRA 16:7)

(Lead—Metallurgy)
(Vacuum metallurgy)

SMIRNOV, M.P.; STREL'NIKOVA, L.N.

Large-scale laboratory testing of the method of alkali smelting of lead concentrates. Sbor. nauch. trud. Gintsvetmeta no.19: 422-431 '62. (MIRA 16:7)

(Lead—Metallurgy) (Smelting—Testing)

SMIRNOV, M.P.; TARKHOV, N.G.; MALKIN, Ya.Z.; SERGIYENKO, V.Ya.; KOZHEVNIKOVA, G.I.

Pilot plant development of a new method of copper removal from crude lead. Sbor. nauch. trud. Gintsvetmeta no.19:432-452 '62. (MIRA 16:7)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut tsvetnykh metallov (for Smirnov, Tarkhov). 2. Chimkenskiy svintsovyy zavod (for Malkin, Sergiyenko, Kozhevnikova).
(Lead--Metallurgy)

MALKIN, Ya.Z.; SMIRNOV, M.P.; SERGIYENKO, V.Ya.; KOZHEVNIKOVA, G.I.; KALNIN, Ye.I.; TARKHOV, N.G.; Prinimali uchastiye: MURSAITOV, Kh.I.; ABDUGAPAROV, Sh.A.; BOVGUTA, I.D.; TKACHEV, S.P.; FILATOV, N.V.; SVISTEL'NIKOV, A.M.; PRACHEV, V.N.; SHEYMAN, V.I.; ANTROPOV, A.D.; SOBOLEV, Ye.D.; POPOVA, N.T.

Industrial testing of a new continuous method of copper removal from crude lead. TSvet. met. 34 no.3:15-22 Mr '61. (MIRA 14:3)

1. Eksperimental'nyy tsekh Chimkentskogo svintsovogo zavoda (for Mursaitov, Abdugaparov, Bovguta, Tkachev, Filatov, Svistel'nikov, Prachev, Sheyman, Antropov, Sobolev, Popova).
(Lead—Metallurgy) (Copper)

SMIRNOV, M.P.

Present state and ways to improve the refining of lead. TSvet. met. 34 no.1:27-35 Ja '61. (MIRA 17:3)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut tsvetnykh metallov.

SMIRNOV, M.P.; BIRENINA, G.A.

Distribution of accessory minerals during the alkali smelting of lead concentrates and the hydrometallurgical treatment of the melts. Sbor. nauch. trud. Gintsvetmeta no.19:411-421 '62. (MIRA 16:7)

(Lead industry--By-products)
(Hydrometallurgy)

L 10652-63
EWP(q)/EWT(m)/BDS--AFFTC/ASD--JD

ACCESSION NR: AP3001218 S/0078/63/008/006/1402/1407

54

AUTHOR: Smirnov, M. P.; Rudnichenko, V. Ye.

TITLE: Phase diagram of the Ca-Bi system

SOURCE: Zhurnal neorganicheskoy khimii, V. 8, no. 6, 1963, 1402-1407

TOPIC TAGS: phase diagram Ca-Bi system, differential thermal analysis, Ca eutectic

ABSTRACT: The Ca-Bi system was investigated by differential thermal analysis and by microscopic methods. The following compounds were formed in the system: Ca sub 3 Bi sub 2, fusion temperature 1350 degrees; CaBi sub 3, formed by peritectic reaction at 505 degrees; CaBi, peritectic at 1075 degrees. Ca fusion temperature was established at 865 degrees; a eutectic containing 10% Ca was found, the eutectic line lying at 840 degrees. Below this temperature, in the 100-22% Ca interval there are 2 polymorphic transitions of Ca: at 500 and at 325 degrees. A number of these figures contradict those of Kurzyniec (Bull. Intern. Akadem. Polonaise, A, 1931, 31-58). Orig. art. has: 1 table and 4 figures.

ASSOCIATION: none

SUBMITTED: 24Mar62 DATE ACQD: 01Jul63 ENCL: 00

Card 1/2

SMIRNOV, M.P.; MALKIN, Ya.Z.; SERGIYENKO, V.Ya.; TARKHOV, N.G.

Pilot plant development of a continuous method of lead softening in the presence of alkalies. TSvet. met. 36 no.8:43-48 Ag '63. (MIRA 16:9)

(Lead--Metallurgy) (Alkalies)

KUKINA, R.A.; SMIRNOV, M.P.

Shortening the annealing cycle in the small-lot production of malleable castings. Lit.proizv. no.7:36-37 Jl '64. (MIRA 18:4)

SMIRNOV, M.P.; STREL'NIKOVA, L.N.

Investigating the fusibility diagram of the binary system NaOH - Na_2S and the ternary system NaOH - Na_2S - Na_2SO_4.

Sbor. nauch. trud. Gintsvetmeta no.23:67-73 '65. (MIRA 18:12)

SMIRNOV, M.P., kand. tekhn. nauk; MALKIN, Ya.Z.; TARKHOV, N.G.; SERGIYENKO, V.Ya.

Developing a continuous method for the alkali softening of lead. Sbor. nauch. trud. Gintsvetmeta no.23:201-216 '65. (MIRA 18:12)

SMIRNOV, M.P., kand. tekhn. nauk; BIBENINA, G.A.; TARKHOV, N.G.; RAGULINA, A.T.

Developing a continuous method of bismuth removal from lead. Sbor. nauch. trud. Gintsvetmeta no.23:217-234 '65. (MIRA 18:12)

SMIRNOV, M.P., kand. tekhn. nauk; BIBENINA, G.A.

Testing the new method of bismuth removal from lead by means of potassium and magnesium. Sbor. nauch. trud. Gintsvetmeta no.23:235-240 '65. (MIRA 18:12)

AMELIN, S.V., prof. (Leningrad); SMIRNOV, M.P., dotsent (Leningrad); YAKOVLEV, V.F., dotsent (Leningrad)

Results of experimental trips. Put' i put. khoz. 9 no.10: 17-19 '65. (MIRA 18:10)

LOSKUTOV, Fedor Mikhaylovich[deceased]; Prinimali uchastiye: ANDREYEV, V.M., kand. tekhn. nauk; ORLOVTSEV, Yu.V., kand. tekhn. nauk; SMIRNOV, M.P., kand. tekhn. nauk; NELEN', I.M., kand. tekhn. nauk; LAKERNIK, M.M., doktor tekhn. nauk; GORDON, G.M., kand. tekhn. nauk

[Metallurgy of lead] Metallurgiia svintsa. Moskva, Metallurgiia, 1965. 528 p. (MIRA 19:1)

L 23877-66 EWT(i)/EWT(m)/EPF(n)-2/T/ETC(m)-6 WW/DJ/WE

ACC NR: AP6009922 (A,N) SOURCE CODE: UR/0413/66/000/004/0117/0117

AUTHOR: Bakharev, A. P.; Tumanova, A. S.; Lisitsyn, A. A.; Rodnikov, V. A.; Pozharov, M. A.; Rezvov, K. M.; Smirnov, M. P.; Latysh, V. S.; Kryuchkov, V. Ye.; Filippov, V. V.; Keller, U. U.; Kislov, V. G.; Gryaznov, Yu. A.; Koshman, E. I.; Mos'kin, V. A.; Polonskiy, S. N.; Fedoseyev, N. I.; Lavrov, L. I.

64
B

ORG: none

TITLE: A sectional high-pressure fuel pump. Class 46, No. 179124

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 4, 1966, 117

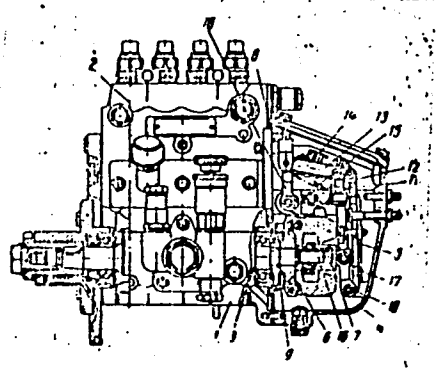
TOPIC TAGS: engine fuel pump, internal combustion engine, high pressure pump

ABSTRACT: This Author's Certificate introduces: 1. A sectional high-pressure fuel pump for internal combustion engines. The pumping elements and camshaft are located in the pump housing. The unit also contains a general-purpose regulator with weights mounted on a hub which is fitted loosely onto the camshaft. These weights operate a clutch which is connected to the fuel pump rod by a lever mechanism. The hub with the weights is connected to the camshaft by a helical spring element for stable operation of the pump under given conditions. 2. A modification of this pump in which the lever mechanism is made up of two levers mounted on a common axis. One of these levers

UDC: 621.43.031

Card 1/3

is connected to the pump rod drawbar and the other is connected to the regulator spring. The lever fastened to the drawbar is also coupled with another spring which



1--housing; 2--pumping element; 3--camshaft; 4--general-purpose regulator; 5--weights; 6--hub; 7--regulator clutch; 8--rod; 9--helical spring element; 10--common axis; 11 and 12--control levers; 13--drawbars; 14--regulator spring; 15--extra spring; 16--stem; 17--clutch cavity; 18--control lever

moves this lever to increase fuel feed during starting of the engine. 3. A modification of this fuel pump in which the regulator clutch is mounted on the stem of the camshaft and prevented from rotating by lugs on one of the levers which fit into grooves on the clutch. The clutch cavity bounded by the end of the shaft is filled with oil for damping. 4. A modification of this pump in which the additional spring coupled with the lever mechanism has its other end connected to the motor control lever so that the spring is out of operation when the control lever is moved to the minimum idling speed position after the motor is started. 5. A modification of this pump in which the lever is connected to the pump rod

L 23877-66

ACC NR: AP6009922 O

drawbar by an eccentric to change the cyclic feed of the pump during regulation without changing the speed conditions of the regulator.

SUB CODE: 13/ SUBM DATE: 13Apr62/ ORIG REF: 000/ OTH REF: 000

Card 3/3 dda

SMIRNOV, M.S., inzh.

The S-336V concrete mixer. Stroi. i dor. mash. 7 no.4:26-27 Ap '62. (MIRA 16:7)

(Concrete mixers)

VOLKOV, A.S., inzhener; SMIRNOV, M.S., inzhener.

Investigating the causes of external surface destruction of diesel engine cylinder bushes. Vest.mash.36 no.11:31-33 N '56. (MIRA 10:1)

(Diesel engines) (Corrosion and anticorrosives)

SMIRNOV, M.S.

Influence of sulfur compounds in fuels on the formation of carbon deposits in diesel engines. Khim. i tekh. topl. i masel no.9:49-53 S '57. (MLRA 10:11)

1. Nauchno-issledovatel'skiy institut goryuche-smazochnykh materialov.
(Diesel engines) (Diesel fuels) (Sulfur)

SMIRNOV, M.S.

AUTHOR: Smirnov, M.S.

122-2-10/33

TITLE: The Effect of Sulphur Compounds in the Fuel on the Wear of Diesel Engine Components (Vliyaniye sernistykh soyedinenniy topliva na iznos detaley dizeley)

PERIODICAL: Vestnik Mashinostroyeniya, 1958, No.2, pp.34-36 (USSR)

ABSTRACT: The standard Soviet diesel fuel (ГОСТ 4749-49) contains 0.18% sulphur. Diesel fuels of eastern origin contain between 0.9 and 1.25% sulphur, resembling US and Middle East fuels. Table 1 shows the properties of the standard Soviet fuel compared with three varieties of Soviet sulphur-containing fuel. Tests are reported wherein several Soviet diesel engines were submitted to 500 hours running with different fuels. Table 2 shows typical values of observed wear in several components. Sulphur-containing fuels cause 2 to 4 times greater wear. Other tests have shown the beneficial effects of oil and additives such as ЦИАТИМ-339 which, however, loses its value when the sulphur content exceeds 1%. Further tests have shown that over-cooling the engine yields more deposits and a more rapid rate of wear. The tests are thought to support the decision to permit up to 1% sulphur in diesel fuels when "doped" oil is used. There are 5 tables, 3 English and 1 German reference.

CARD

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